

large numbers at a source of food. The first of these is most noticeable in the Serengeti National Park when the migration of thousands of wildebeest concentrate on the open eastern plains. The herds of moving wildebeest cause a constant scattering in all directions of insects, small rodents and lizards that are soon seized by the numerous attendant bustards that follow alongside the flanks of the migrating herds. Another source of food is provided by the numerous bush and grass fires so characteristic of East Africa. In this instance, accompanied by Marabou Storks, they either walk about the warm ashes in the lee of the advancing flames, picking out charred insects, or even keep a few feet ahead of the advancing flames gathering insects and other small creatures fleeing from the blaze. Although the Kori Bustard is a reluctant flyer it appears to travel many miles at this time of the year from one grass fire to another.

On *Rhipidura javanica* Sparrman in the Sunda Strait area

by A. HOOPERWERF

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A rather remarkable, though small, series of Fantail Flycatcher from the Sunda Strait formed the main reason for writing these notes from which it once more becomes evident how interesting this area between Java and Sumatra is.

When describing *Rhipidura longicauda* Alfred R. Wallace⁵ mentions as differences from *Rhipidura javanica*, besides the long tail "narrow white tips to only three outer tailfeathers, and the black chin". But in the series (partly fresh) of both these subspecies studied by me, these characters are not very convincing though it cannot be denied that *longicauda* averages in having more often black on the chin than *javanica* and that none of this last race in my series has so much black on that area as have several *longicauda*. Of the white on the tail there is so much variation that this character cannot be accepted as of racial importance.

Perhaps those differences in the plumage are not recognized as of sub-specific value by later authors, for Chasen and Kloss² are of the opinion that the two forms are not well defined but that birds from Borneo and Sumatra seem rather larger and, on a series, are generally duller on the upper parts, less reddish-brown on the rump and upper tail-coverts and less washed with brownish on the belly.

Later Boden Kloss³, speaking of *javanica*, writes "it is a little more tinged with ferruginous above and below than *longicauda*". Mayr⁴ writes about some Bornean birds classified by him as *longicauda* "these small birds might also be referred to typical *javanica*", from which it is evident that he did not find any difference in the plumage or did not attach any importance to it.

Though there is rather a lot of individual variation in the tint of the under parts, it cannot be denied that fresh as well as old *javanica* material averages in having more buffy in the white than is the case in *longicauda*. In our series this character is most obvious in young birds as is shown in some juveniles from Princes Island. Two skins from Sebesi and Legundi Islands are clearer white, but two birds obtained on Sangiang Island and one from Ujung Kulon fit in well with *javanica* in this respect. The black on the chin is absent or very little in nearly all Strait Sunda specimens,

except in both birds from Sangiang Island which clearly show black feathers on the chin.

In all these birds the white on the tail varies much in tint and extent and the same holds good with the black on the chest and the white area on foreneck and throat, in *javanica* as well as in *longicauda*.

In the studied series the colour of the upper parts averages a trifle darker in *longicauda* than in *javanica*. The few adult birds from Princes Island and one of the two skins from Sangiang Island, are distinctly lighter than *longicauda*, but both specimens from Sebesi and Legundi, a second bird from Sangiang and the only skin from Udjung Kulon, however, seem closer related to *longicauda* in regard to that character.

An old skin from the island of Bali, which is classified as *javanica*, fits well in *longicauda* because of its dark upper surface. This seems to cover Chasen's opinion¹ "the Bali bird is perhaps not *javanica*".

Another character of *javanica* present in nearly all skins of this race seen by me, consists of the ferruginous tint of the lower back and tail-coverts, which seems absent or hardly visible in *longicauda*. All skins from Princes Island show that ferruginous colour very obviously, the juveniles more strikingly than the adults. Also the Udjung Kulon bird—though with dark upper parts—shows this character well, but it is absent in the other birds from the Sunda Strait.

Though Princes Island birds do not differ in plumage from *javanica* it seems better to consider them as *javanica* \geq *longicauda* on account of the very long tail of the males, which I consider as the character of paramount importance when comparing both populations. Even a juvenile bird, from this remarkable island has a tail of 93 mm. and the only adult male has the tail still longer (94 mm.) which is very long, even for *longicauda*! In view of the fact that I have only two adult females and one adult male from that island it is not advisable to propose separation of Princes Island's population of *Rhipidura javanica*, which might be justified, for besides the long tail, the differences in plumage may be of racial value.

The only male from Sebesi Island and one female from Legundi and the only male from Udjung Kulon have dark upper parts but resemble *javanica* in having a varying quantity of buffy in the white of the under parts; a female from Sangiang closely resembles *javanica* but a second bird (a male) from this small island situated just between Java and Sumatra, seems closely related to *longicauda* because of its dark upper surface and the long tail (93 mm.).

From the above it seems justified to look upon the area in and around the Sunda Strait as a territory of a mixed population in which it seems difficult to say which subspecies predominates, but on account of the long tail I suppose this to be *longicauda*, except in Java's most western peninsula Udjung Kulon, where perhaps lives a population with a short tail of *javanica* combined with the dark upper surface of *longicauda* and again the rufous tint on the back and upper tail-coverts of *javanica*.

From the measurements it seems evident that there is not much individual variation in wing size within the same subspecies. The tail, however, varies importantly and there is a fairly constant difference in the size of both sexes.

The male secured in October on Princes Island had large testicles (7 and 8 mm.) but the three adult females had the ovaries poorly developed (2

or well granular. The male obtained in July in Ujung Kulon had large gonads (7-8 mm.) and also a male shot in June on Sebesi Island had the reproductive organs rather large (2 and 3 mm.) but a female from the same island had the ovary hardly granular. A male from Sangiang Island had very large testicles (10 mm.) and the female had a well-granular ovary.

Among the small series secured in October on Princes Island, there are five fledglings and one pullus not yet able to fly.

Measurements (in mm.):

♂♂ *Wing; javanica* (Java): 75, 75, 76, 77, 79; *longicauda*; 79, 80, 80, 82, 82; *javanica* \geq *longicauda* (Sunda Strait area): 78 (juv.), 79, 80, 82.

Tail; javanica (Java): 80, 83, 85, 86, 90; *longicauda*; 88, 89, 92, 92, 92; *javanica* \geq *longicauda* (Sunda Strait area): 89, 90, 93 (juv.), 94.

Culmen; javanica (Java): 10.6, 10.9, 10.9, 11, 11.2; *longicauda*; 11, 11.6, 11.8, 11.9, 12.1; *javanica* \geq *longicauda* (Sunda Strait area): 10, 10.2, 11.1 (juv.).

Max., min., and average measurements:

	<i>javanica</i>	<i>longicauda</i>	<i>javanica</i> \geq <i>longicauda</i>
<i>Wing:</i>	75-79	79-82	78-82
	<hr/> 76.40	<hr/> 80.60	<hr/> 79.75
<i>Tail:</i>	80-90	88-92	89-94
	<hr/> 84.80	<hr/> 90.60	<hr/> 91.50
<i>Culmen:</i>	10.6-11.2	11-12.1	10-11.1
	<hr/> 10.92	<hr/> 11.68	<hr/> 10.43

♀♀ *Wing; javanica* (Java): 71, 73, 75, 77, 79; *longicauda*; 73, 73, 73, 75; *javanica* \geq *longicauda* (Sunda Strait area): 72, 72, 73 (juv.), 73 (juv.), 73, 74, 76, 76.

Tail; javanica (Java): 83, 83, 90, 90, 91; *longicauda*; 80, 84, 86, 87; *javanica* \geq *longicauda* (Sunda Strait area): 79, 82 (juv.), 83, 83, 85 (juv.), 86, 90.

Culmen; javanica (Java): 8.5, 10, 10.2, 11, 11.8; *longicauda*; 10.2, 10.6, 10.9, 11.7; *javanica* \geq *longicauda* (Sunda Strait area): 9.7 (juv.), 10.1, 10.3 (juv.), 10.9, 11.1, 11.1, 11.2, 11.9.

Max., min. and average measurements:

	<i>javanica</i>	<i>longicauda</i>	<i>javanica</i> \geq <i>longicauda</i>
<i>Wing:</i>	71-79	73-75	72-76
	<hr/> 75	<hr/> 72.75	<hr/> 73.63
<i>Tail:</i>	83-91	80-87	79-90
	<hr/> 87.40	<hr/> 84.25	<hr/> 84
<i>Culmen:</i>	8.5-11.8	10.2-11.7	9.7-11.9
	<hr/> 10.30	<hr/> 10.85	<hr/> 10.77

References:

- ¹ Chasen, F. N. Handlist of Malaysian Birds: *Bull. Raffles Museum*, 11, 1935, p. 175: (footnote).
- ² Chasen, F. N. and Boden Kloss, C. On a collection of Birds from the Lowlands and Islands of North Borneo; *Bull. Raffles Museum*, Singapore, 4, 1930, p. 53/4.
- ³ Boden Kloss, C. An account of the Sumatran Birds in the Zoological Museum at Buitenzorg with descriptions of nine new races; *Treubia*, 13, 1931, p. 336.
- ⁴ Mayr, Ernst. Notes on a collection of Birds from South Borneo; *Bull. Raffles Museum*, Singapore, 14, 1938, p. 35.
- ⁵ Wallace, Alfred R. Descriptions of new Birds from the Malay Archipelago; *Proceedings Zoological Society of London*, 1865, p. 476.

Weights of some Zambian birds

by R. J. DOWSETT

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There are few published data on the weights of African birds, and the only previous records from Zambia (Northern Rhodesia) appear to be those of White (1948), who gives 81 weights of 40 species from the Mwinilunga district.

The present paper gives 480 weights of 56 species (the majority not included in White's data) collected from various parts of Zambia between 1962 and 1964. Weights have been taken with (a) a set of spring balances (by A. J. Tree or myself) and (b) a set of scales (by Tree). Both balances and scales are considered to be equally accurate, and there is unlikely to be any bias in the taking of weights by two different observers. I am grateful to Tree for making available weights obtained by himself.

Nomenclature follows Benson and White (1957). All weights and averages are given to the nearest 0.5 grms.

ad. = adult imm. = immature juv. = juvenile

M. = Male F. = Female Ave. = Average

Months and localities are mentioned only where considered relevant to weight.

Ixobrychus minutus (2) 2 ad. M, 95.5–114.5 Ave. 105.0 grms.

Gyps bengalensis (1) 1 ad. 5,488.

Neophron monachus (1) 1 ad. 2,270.

Accipiter ovampensis (1) 1 ad. M. 239.5.

Charadrius pecuarius (97) June: 1 ad. 37.5. Oct.: 96 ad. and juv. 25.0–43.5. Ave. 32.0 (All from Kafue Flats)

C. tricolor (7) 26.0–37.0. Ave. 31.0.

Gallinago nigripennis (1) 1 imm. 133.0.

Calidris ferruginea (16) Oct.: 13, 43.0–60.0. Ave. 53.0 (All Kafue Flats). April: 3, 38.0–48.5 Ave. 42.0 (All Northern Province).

C. minuta (46) Sept.: 2, 19.0–21.0. Ave. 20.0. Oct.: 32, 17.0–26.0. Ave. 21.0. April: 12, 16.0–23.0. Ave. 19.0.

Philomachus pugnax (7) 1 F. Oct.: 92.0. 6 F. April: 72.0–99.0. Ave. 83.5.

Tringa hypoleucos (13) Aug.: 4, 39.5–45.5. Ave. 42.0. Sept.: 4, 38.0–47.0. Ave. 42.5. Oct.: 4, 46.0–53.0. Ave. 49.5. Jan.: 1, 41.0.

T. stagnatilis (2) Oct.: 2, 66.0–78.0. Ave. 72.0.

T. glareola (23) Aug.–Oct.: 8, 48.5–61.0. Ave. 56.5. Jan.: 3, 51.0–53.0. Ave. 52.0. April: 12, 51.0–65.0. Ave. 58.0.